



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,432	04/21/2006	Masaru Hidaka	271013US90PCT	6068

22850 7590 07/26/2007
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NAGUBANDI, LALITHA

ART UNIT	PAPER NUMBER
----------	--------------

1621

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

07/26/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/533,432

Applicant(s)

HIDAKA ET AL.

Examiner

Lalitha Nagubandi

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/15/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Detailed Office Action

Status of the Claims

Claims 1-16 are pending in this application. Claims 1-16 are considered for examination in this office action.

Priority

This application is a 371 of PCT/JP03/14136 dated 11/06/2003 which claims benefit of JP 2002-324398 dated 11/07/2002, JP 2003-281994 dated 07/29/2003.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware of in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1621

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102 (e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azzam et al (WO 95/04796)and further in view of Matsubara et al (JP 2000053801).

Applicants claim a process for decomposing a polymer into a monomer by hydrolysis with sub/or supercritical water, characterized in that atleast a part of the polymer is comprising a constitutional unit derived from an organic acid in the molecular

structure, and the polymer is being contacted with supercritical water in the presence of a water-insoluble base. Further, the water insoluble base is selected from Ca CO_3 , BaCO_3 and Ca (OH)_2 .

Determination of the scope and content of prior art

Azzam et al teach a depolymerization process of a polymer into its monomers with supercritical water. The process also exemplifies polymers like polyesters. (see pages 7 and 8, and claims 6 and 8, WO 95/04796)

Further, Matsubara teaches the recovery of aromatic dicarboxylic acids from polyesters obtained during the depolymerisation process. (see the abstract, JP 2000053801)

Ascertainment of the difference between the prior art and claims

The difference between the prior art disclosed and the instant claims is that Azzam et al teach the depolymerization process as a general principle stating the specific example of PVC but extending the scope to other polymers which includes the polyesters also. However, Azzam is silent about the separation of the monomers.

Matsubara teaches the separation of the monomers obtained during the depolymerisation process, but does not teach the specific use of Group II metal or metal hydroxides or carbonates as embodied in the dependent claims.

Finding of prima facie obviousness-rationale and motivation

It would have been obvious to one having ordinary skill in the art to have used the different metals or metal hydroxides or to replace the Sb_2O_3 disclosed by Matsubara during the depolymerization process of Azzam with a reasonable expectation of success.

A skilled artisan would have been motivated to use alternative bases in Azzam's process with a reasonable expectation that these metal bases would be useful for the separation of the monomers.

Accordingly, one of ordinary skill in the art would be motivated to prepare the instant products by modifying the process parameters, using routine practices of optimization and cost reduction practices, requiring no inordinate degree of experimentation.

Therefore the subject matter as a whole would have been obvious to one of ordinary skill in the art of process chemistry and one would have been motivated to combine and modify the teachings cited above at the time of invention and obtain reasonable expectation of success.

Conclusion

No claims are allowed

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lalitha Nagubandi whose telephone number is 571 272 7996.

The examiner can normally be reached on 6.30am to 3.30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eyler,

Art Unit: 1621

Yvonne can be reached on 571 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lalitha Nagubandi
Patent Examiner
Technology Center 1600

July 19th, 2007.



Samuel A Barts

Primary Patent Examiner
Technology Center 1600



LIST OF RELATED CASES CITED BY APPLICANT UNDER 37 CFR 1.56	Docket No.: 271013US40PCT	Serial No.: 10/533,432
	Inventor: Masaru HIDAKA, et al.	
	Filing Date: April 21, 2006	Group: 1621

LIST OF RELATED CASES

<u>Examiner Initial</u>	<u>Docket No.</u>	<u>Serial or Patent Number</u>	<u>Filing or Issue Date</u>	<u>Patent App. Publication No.</u>	<u>Inventor or Applicant</u>
<i>dm</i>	271013US40PCT*	10/533,432	04/21/06	2006-0247465	HIDAKA, et al.
<i>dm</i>	295431US40XPCT	10/593,081	09/15/06		HIDAKA, et al.

Examiner

d' nagubandi

Date Considered

07/18/07

*Present Application; listed for information

RDK/rmn/nle

I:\MEMREL\271s-272s\271013US LIST.DOC